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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HYUN, PAUL SANG HWA	
ART UNIT	**PAPER NUMBER**
1743	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,766	WESELAK ET AL.	
	Examiner	Art Unit	
	Paul S. Hyun	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

REMARKS

Claims 1-48 are currently pending. Applicants amended claims 1, 5 and 37.

The claim objection cited in the previous Office action has been withdrawn in light of the amendments.

The amendment to the Specification to correct a minor error has been acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **1, 2, 5, 7-10, 12-39, 41-44 and 46-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. (US 6,467,285 B2) in view of Beavers et al. (US 5,842,179).

Felder et al. disclose an automated, cryogenic storage module. The system is adapted to store and retrieve containers such as microplates stored in racks 23 comprising slots and rails 38 (see Abstract and Fig. 10A). The storage module appears to comprise more than 50 rows and 6 columns of slots (see Fig. 2A). Each container is assigned a bar code that is read by a bar code reader 65 (it should be noted that a bar code can be considered a "flag" according to www.dictionary.com; "flag" is a "a symbol, value, or other means of identifying data of interest"). The operator communicates with

the module via an interface 82 located at a work area to control a robotic transfer mechanism that is adapted to store and retrieve the containers. The interface 82 utilizes a computer system 1300 (see Fig. 13) that comprises main memory 1308, a RAM and secondary memory 1310 for storing data (see lines 25-35, col. 11). When retrieving a container, the operator utilizes the interface to input the container identification, at which point a central processor 81 indicates the location of the container of interest to a control system 80 from a database that stores all the relevant information regarding the container, and mechanically retrieves the container (see lines 12-57, col. 8). The container retrieved by the robotic transfer mechanism can be accessed via exterior door 62 and interior door 61. The system is capable of storing containers at a temperature of -50 degrees Celsius (see lines 54-57, col. 2).

The system disclosed by Felder et al. differs from the claimed invention in that

1) the storage module disclosed by Felder et al. lacks a lock that is controlled by the computer system;

2) the reference does not disclose unique bar codes located on two or more sides of each slot as recited in claim 19; and

3) the reference does not disclose that the database comprises the information recited in claim 43.

With respect to the lock, Beavers et al. disclose a cryogenic storage module comprising a security system or an electronic lock (see lines 45-55, col. 9). A personal identification number must be entered before accessing the storage module. The lock/security system is intended to prevent unauthorized access to the sample stored in

the storage module. In light of the disclosure of Beavers et al., it would have been obvious to one of ordinary skill in the art to provide an electronic lock to the exterior door 62 disclosed by Felder et al. to prevent unauthorized access to the samples stored in the storage module.

With respect to claim 19, it would have been obvious to one of ordinary skill in the art to provide a plurality of identical bar codes to two or more sides of each rack, wherein the bar code assigned to each rack corresponds to the bar code assigned to the container stored in the rack to ease the identification of the containers stored in the racks.

With regards to claim 43, although Felder et al. do not explicitly disclose that the database comprises the data recited in claim 43, it would have been obvious to one of ordinary skill in the art to input all pertinent information regarding the contents of the container in the bar codes. Information like container creation date, identity of the contents of the container, the volume of the contents of the container, container history, container activity date are information that would have been obvious to one of ordinary skill in the art to store in the bar codes.

With regards to claims 24-34, it should be noted that limitations directed towards the containers/trays do not further limit the claims because the containers/trays are not part of the claimed system according to the language of the claims. The claims merely recite that the slots of the claimed system RECEIVE the containers/trays.

Claim **3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et

al. in view of Beavers et al. as applied to claims 1, 2, 5, 7-10, 12-39, 41-44 and 46-48, and further in view of Klee (US 4,800,728).

Neither Felder et al. nor Beavers et al. disclose specific relative humidity and the temperature of the work area.

Klee discloses that frost forms whenever ambient air exceeding relative humidity of 50% at room temperature mixes with cryogenic air (see lines 59-64, col. 2).

In light of the disclosure of Klee, it would have been obvious to one of ordinary skill in the art to maintain the temperature of the work area between 1-8 degrees Celsius and the relative humidity below 40% in order to prevent the formation of frost whenever the exterior door of the modified storage module disclosed by Felder et al. and Beavers et al. is opened.

Claim **4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Beavers et al. as applied to claims 1, 2, 5, 7-10, 12-39, 41-44 and 46-48, and further in view of Klee and Vago (US 5,921,102).

Neither Felder et al. nor Beavers et al. disclose an antechamber.

Vago discloses a plurality of enclosures, including an antechamber 26 and a work area 24, for housing a plurality of cryogenic storage modules 20a (see Fig. 1). The enclosures enable the modules to be stored in a climate-controlled environment.

Klee discloses that frost forms whenever ambient air exceeding relative humidity of 50% at room temperature mixes with cryogenic air (see lines 59-64, col. 2).

In light of the disclosure of Vago, it would have been obvious to one of ordinary

skill in the art to provide the modified module disclosed by Felder et al. and Beavers et al. with climate-controlled enclosures to minimize the effects of temperature and humidity on the contents of the module when the exterior door of the modified module is opened.

In light of the disclosure of Klee, it would have been obvious to maintain the temperature of the antechamber between 1-8 degrees Celsius and the relative humidity below 40% in order to prevent the formation of frost whenever the exterior door of the modified storage module is opened.

Claim **6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. and Beavers et al. as applied to claims 1, 2, 5, 7-10, 12-39, 41-44 and 46-48, and further in view of Roth et al. (US 5,758,913).

Neither Felder et al. nor Beavers et al. disclose that the lock comprise a magnetic locking means.

Roth et al. disclose that electronic door locks having holding forces ranging between 500-2,000 pounds are well known in the art (see line 18, col. 1). In light of the teachings of Roth et al. it would have been obvious to one of ordinary skill in the art to provide a magnetic lock having a holding force greater than 100 pounds to the door of the modified system disclosed by Felder et al. and Beavers et al. to ensure the security of the storage module.

Claim **11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et

al. in view of Beavers et al. as applied to claims 1, 2, 5, 7-10, 12-39, 41-44 and 46-48, and further in view of Rivoire (US 4,314,459).

Neither Felder et al. nor Beavers et al. disclose a means for precisely controlling the temperature of the system within 2 degrees Celsius of the desired temperature setting.

Rivoire discloses a cryogenic device comprising temperature sensor 17 in communication with control circuit 18 that regulates a valve 15 for controlling the temperature. The reference discloses that the device is capable of maintaining a precision of 0.1 degree Celsius between the temperature of 0 and -180 degrees Celsius (see line 10, col. 5- line 40, col. 6).

In light of the teachings of Rivoire, it would have been obvious to one of ordinary skill in the art to provide the modified system disclosed by Felder et al. and Beavers et al. with a means for monitoring and regulating the temperature of the storage unit within 0.1 degree Celsius in order to store the contents of the containers at the optimal temperature.

Claims **40 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Beavers et al. as applied to claims 1, 2, 5, 7-10, 12-39, 41-44 and 46-48, and further in view of de Langavant et al. (US 5,660,046).

Neither Felder et al. nor Beavers et al. disclose that the desired temperature of the storage module can be input via the computer and viewed by a display.

de Langavant et al. disclose a cryogenic temperature control system wherein the

desired temperature of the system can be input via a keyboard (see claim 14), and the condition of the system can be viewed via a display (see lines 45-50, col. 9).

In light of the teachings of de Langavant et al. it would have been obvious to one of ordinary skill in the art to enable the modified system disclosed by Felder et al. and Beavers et al. to input and view the desired temperature of the cryogenic system so that the temperature of the system can be adjusted conveniently.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSH
4/24/07

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